

The diagram shows a control system with five numbered inputs/outputs:

- 1**: A horizontal input line from the left entering a circular summing junction.
- 2**: An input line from the top-left entering the same circular summing junction.
- 3**: A rectangular block representing a controller or actuator, receiving the output from the summing junction.
- 4**: A feedback line that branches off from the output line (5) and enters the bottom of the summing junction.
- 5**: The final output line exiting the system to the right.

Signs: The summing junction has a '+' sign inside. The feedback line (4) has a '+' sign at its entry point into the summing junction.

```

graph LR
    6 --> 7[OUTER ENCODER]
    7 --> 8[INTERLEAVER]
    8 --> 9[INNER ENCODER]
    9 --> 10

```

FIGURE 1C

FIGURÉ 1C

BER

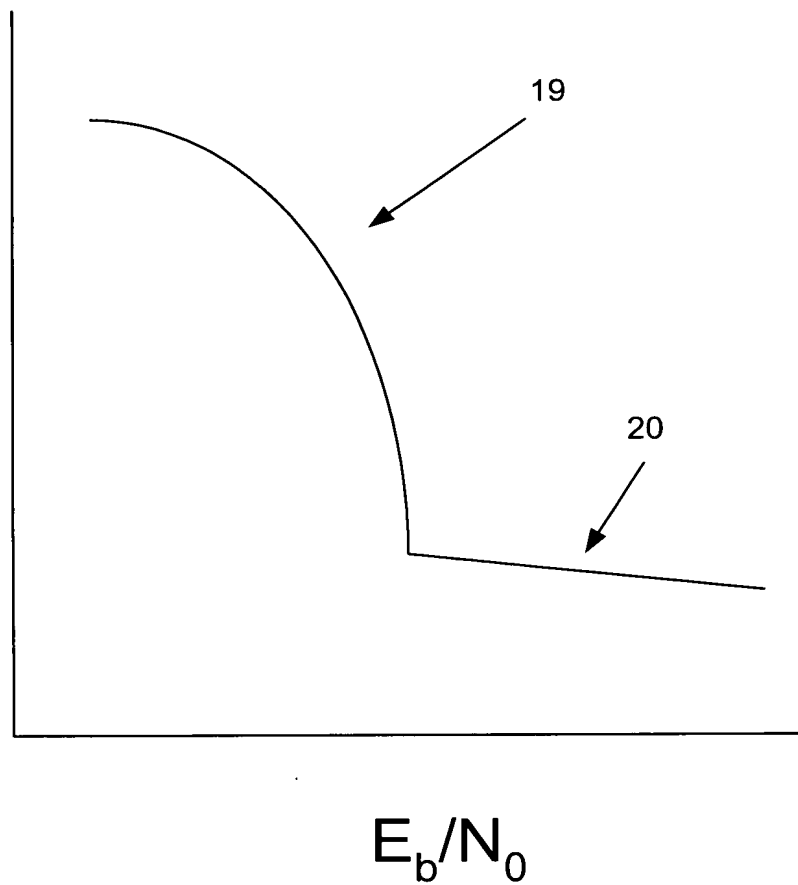
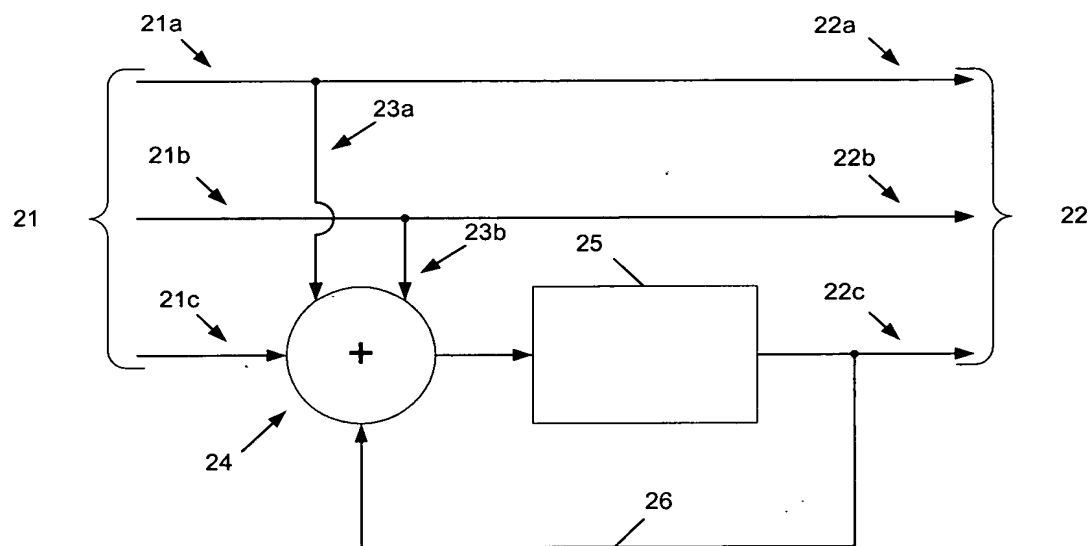

$$E_b/N_0$$

FIGURE 3A



• 3



FIGURE 3B

09634300

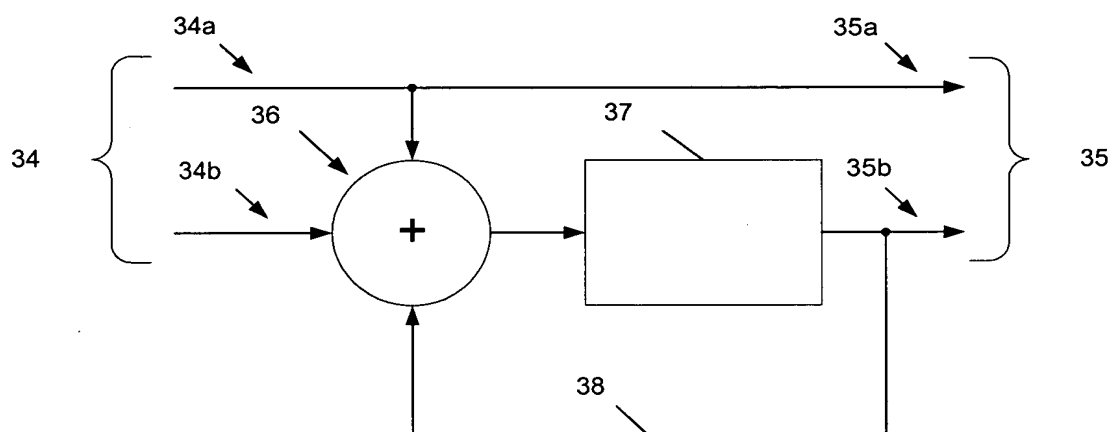


FIGURE 4

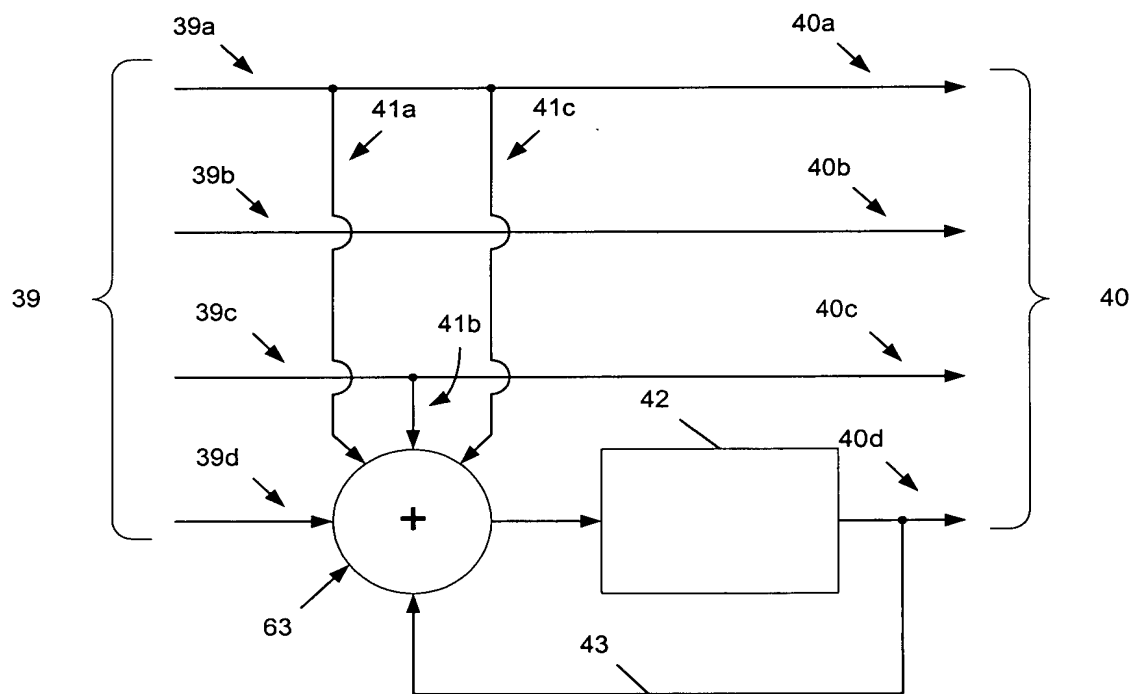


FIGURE 5

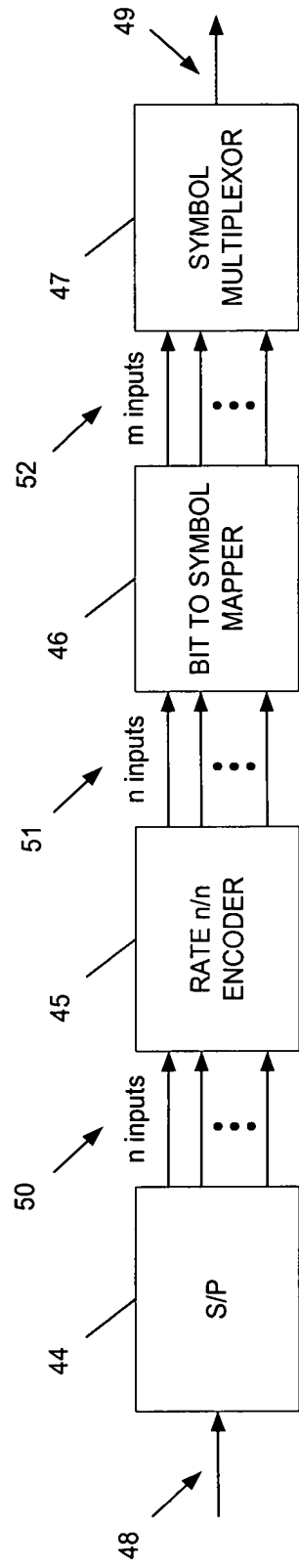


FIGURE 6

SECRET

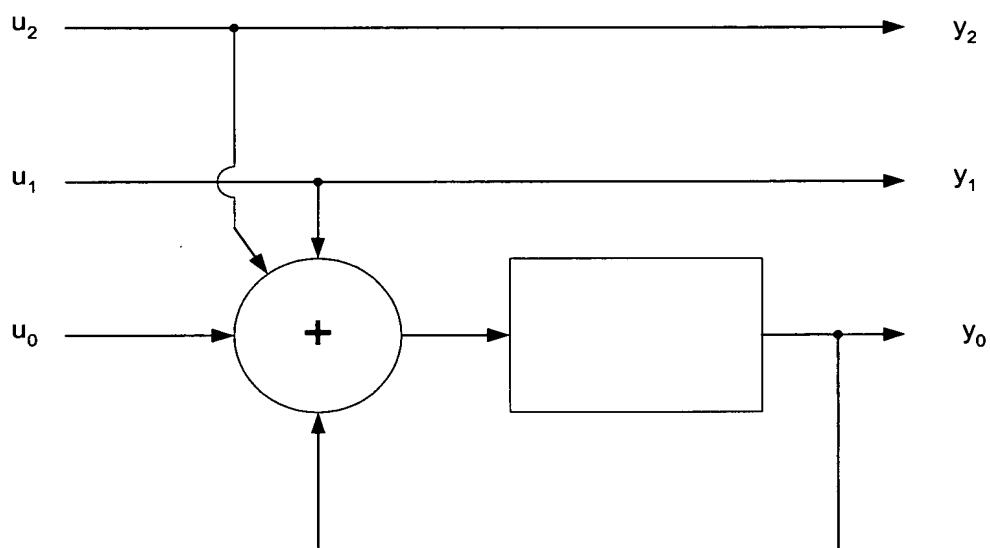


FIGURE 7A

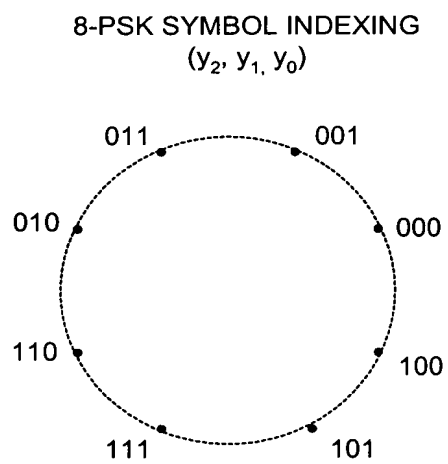


FIGURE 7B

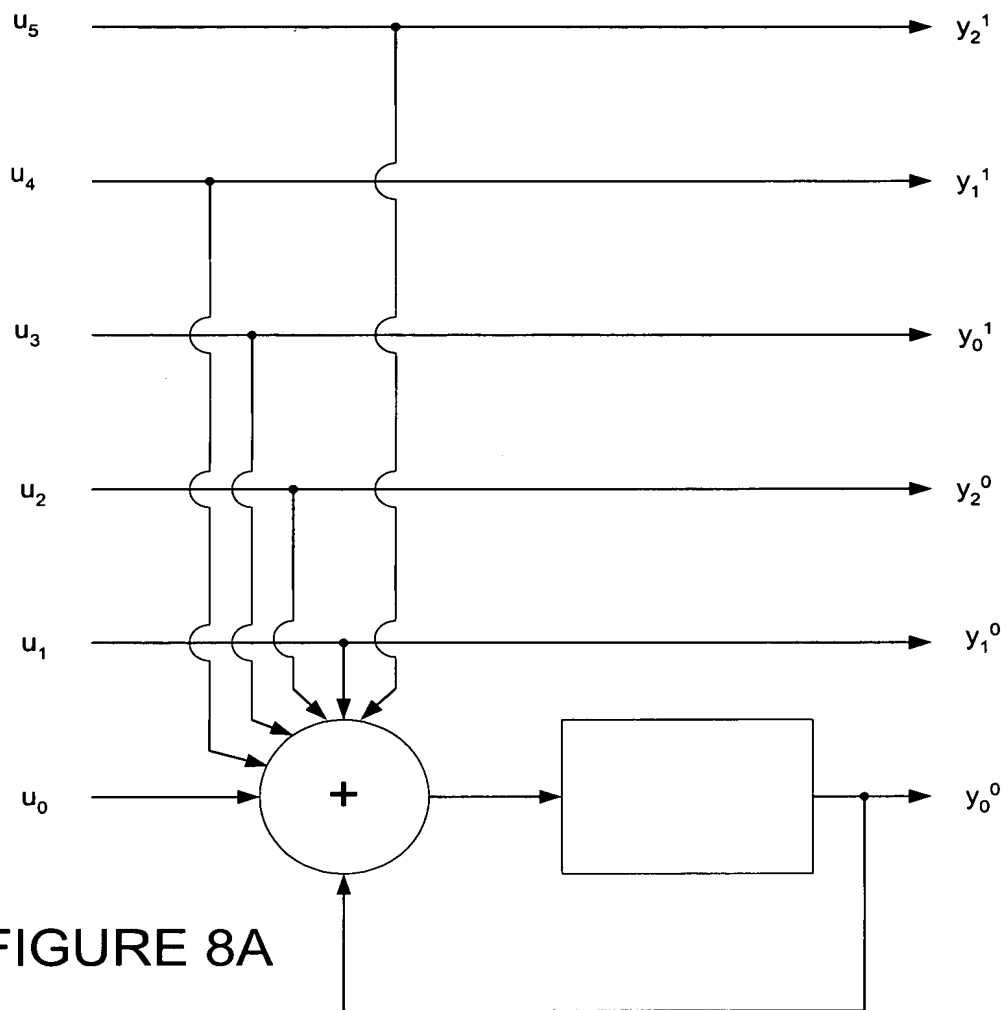


FIGURE 8A

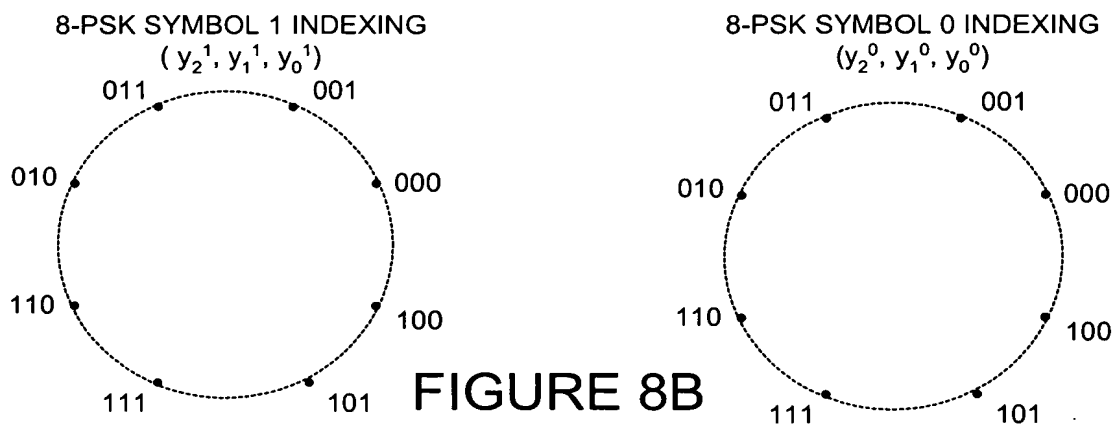


FIGURE 8B

090607Z JUL 80
FM JCRC
TO RUEADKJH
INFO RUEADKJH
RUEADKJH

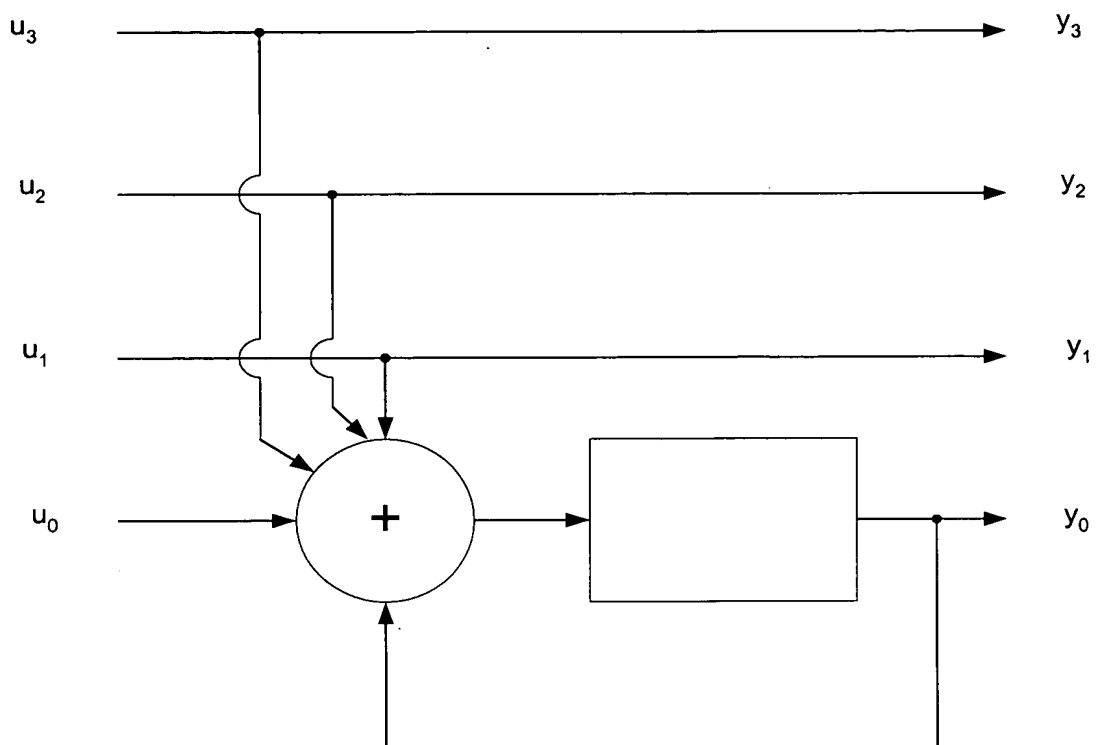


FIGURE 9A

16-QAM symbol indexing

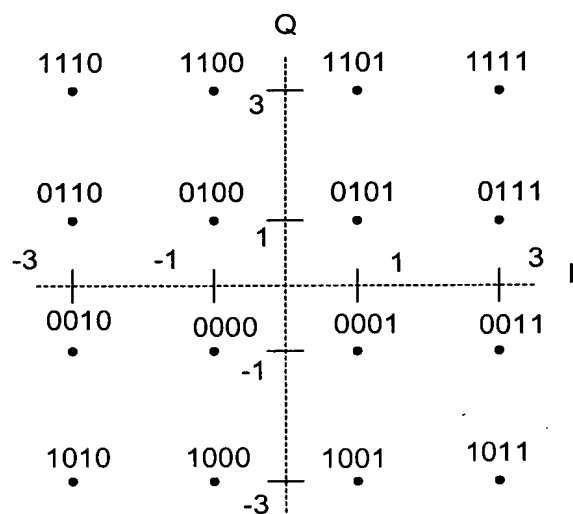
$$(y_3, y_2, y_1, y_0)$$


FIGURE 9B

0560950-062000

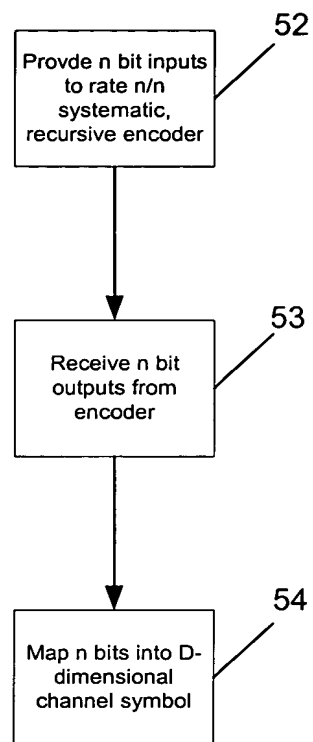


FIGURE 10

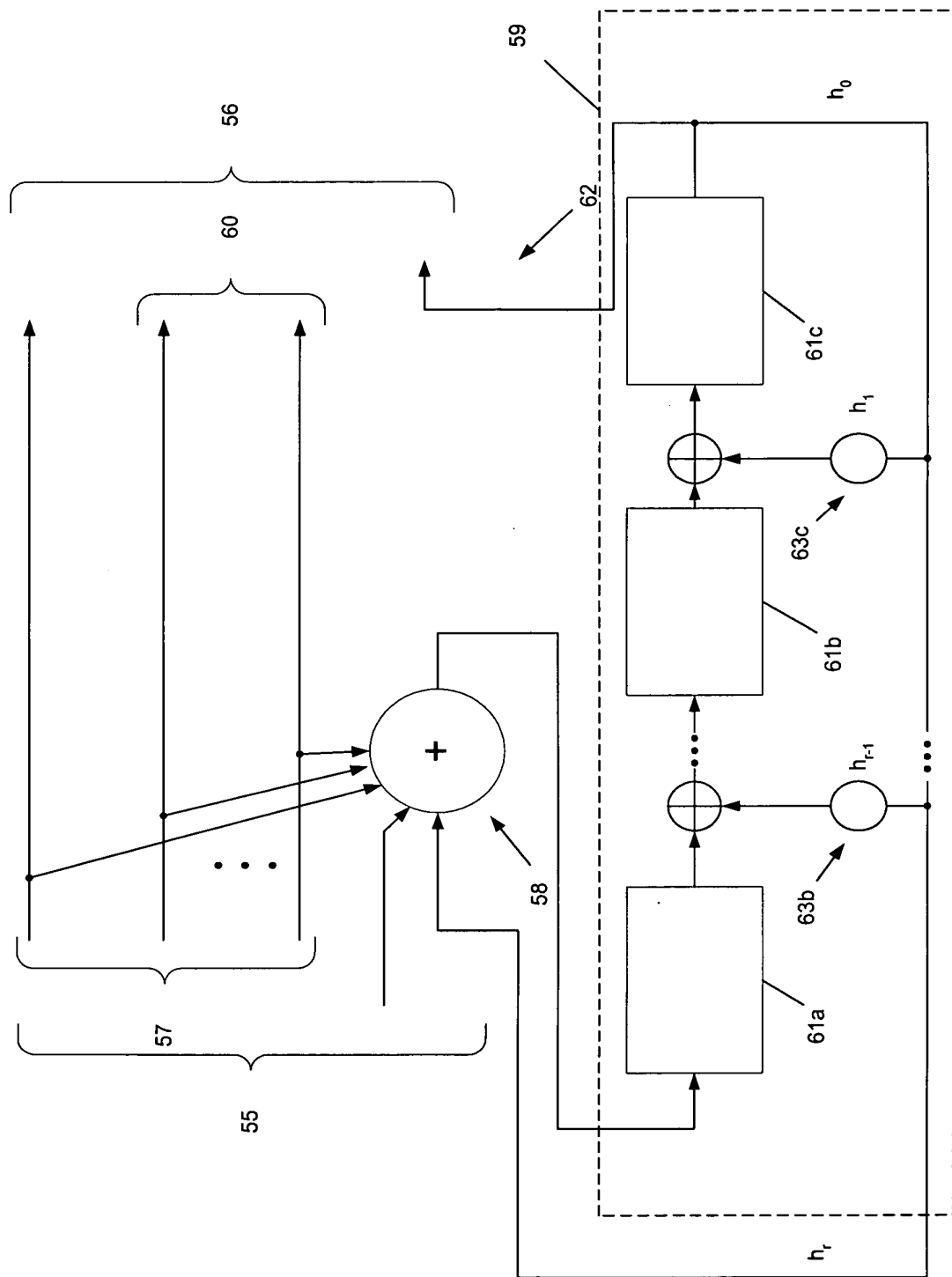


FIGURE 11A

Rate 3/4 overall 8-PSK SCTCM performance: comparison of rate 3/3, 6/6, and 5/6 inner codes
15147-bit source data payload per block (BER floor estimated using Union Bound)

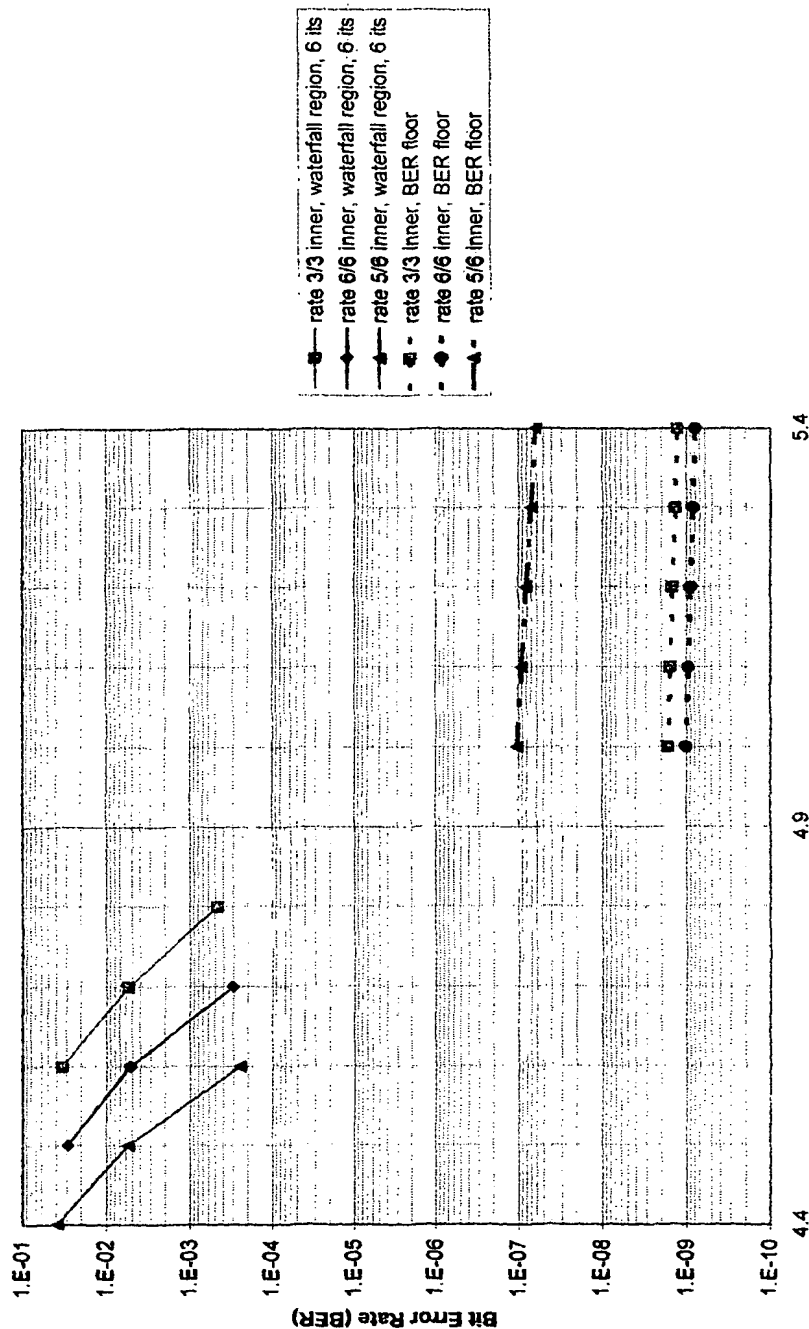


FIGURE 12A

00E290" 06920960

Rate 5/6 overall 8-PSK SCTCM performance: rate 3/3 inner code vs rate 6/6 inner code
15125-bit source data payload per block (BER floor estimated using Union Bound)

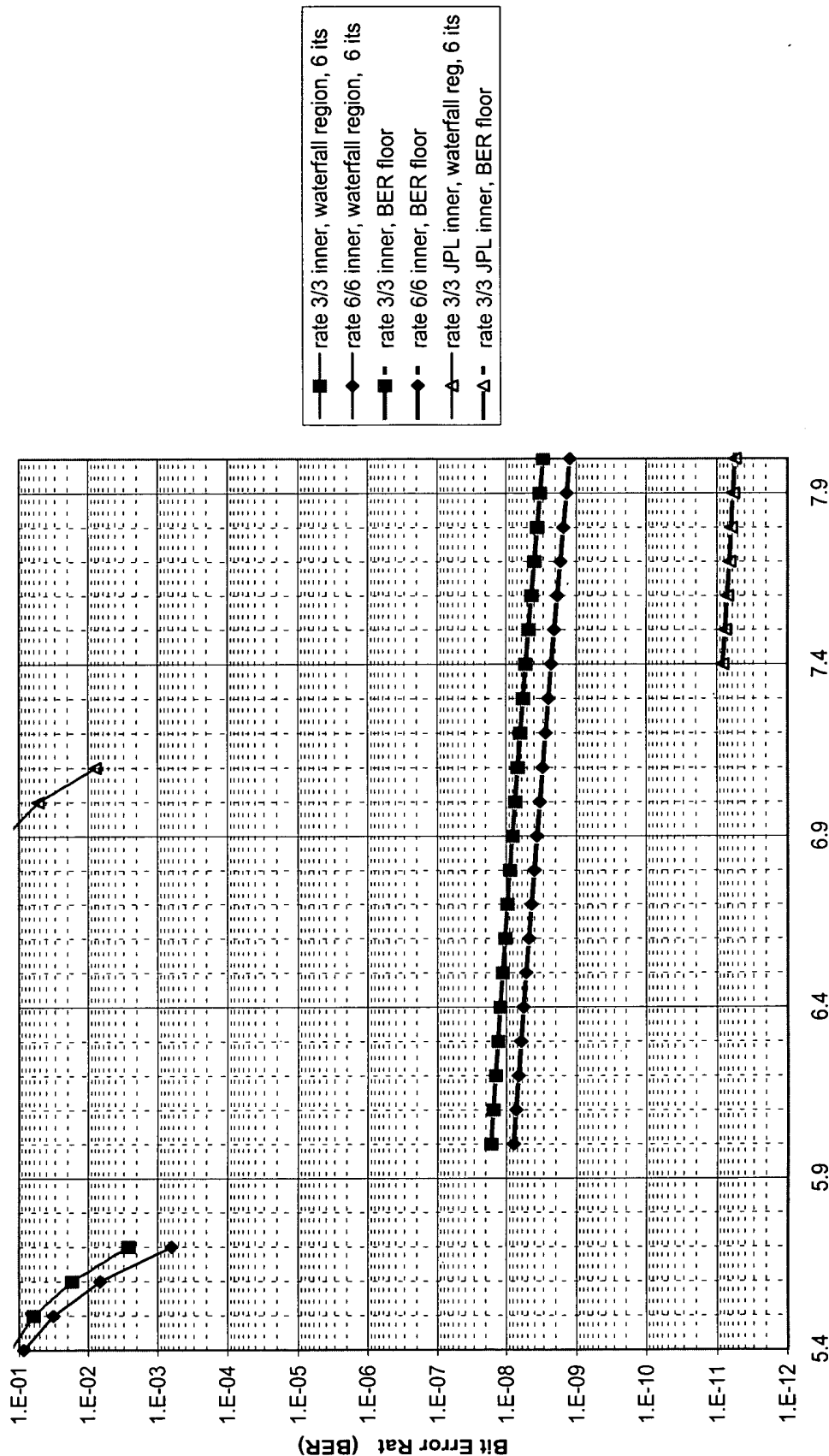


FIGURE 12B

Rate 8/9 overall 8-PSK SCTCM performance: rate 3/3 inner code vs rate 6/6 inner code
15128-bit source data payload per block (BER floor estimated using Union Bound)

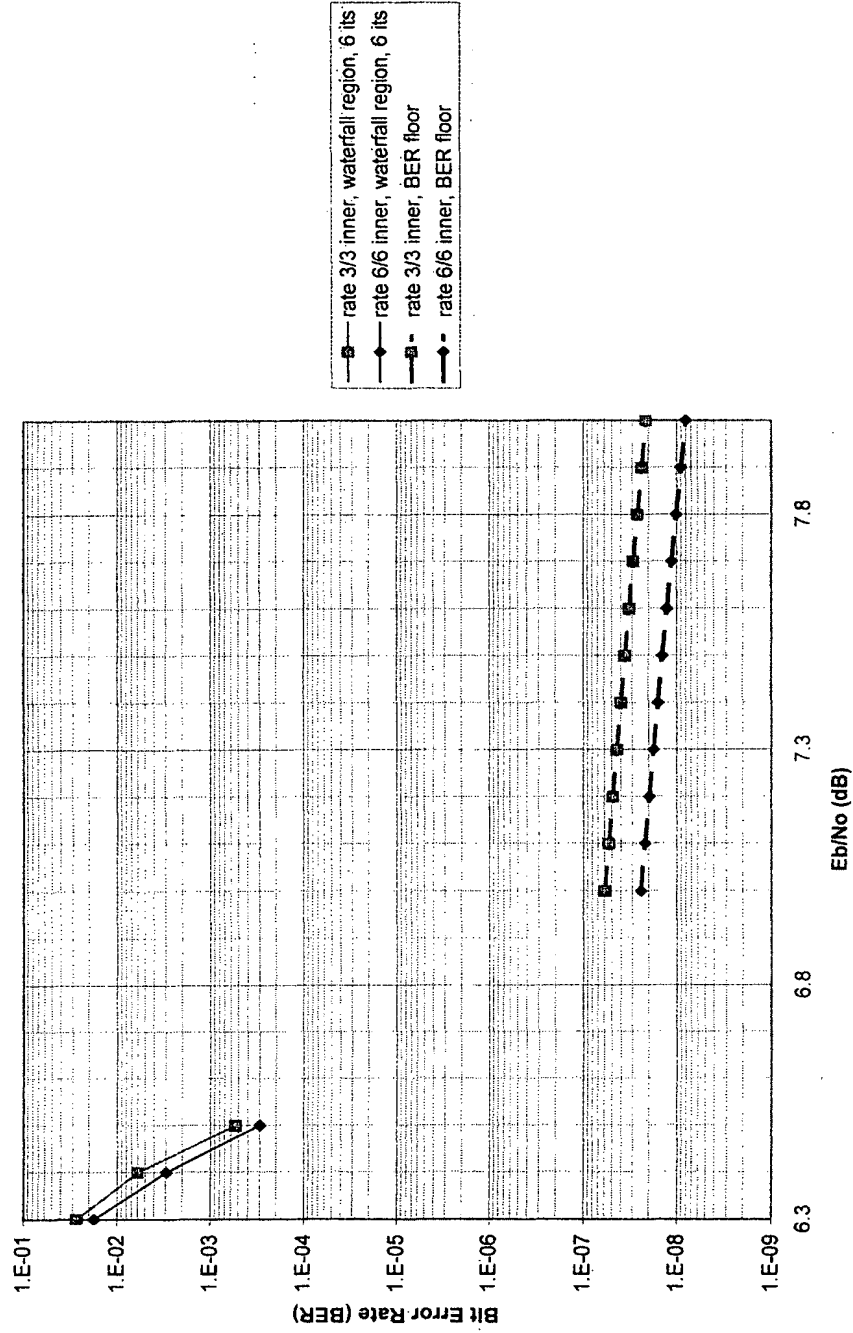


FIGURE 12C

Rate 2/3 Overall Waterfall Comparisons

Simulated (Waterfall) Performance
Rate 2/3 Overall, 15144 source bits, 5 iterations

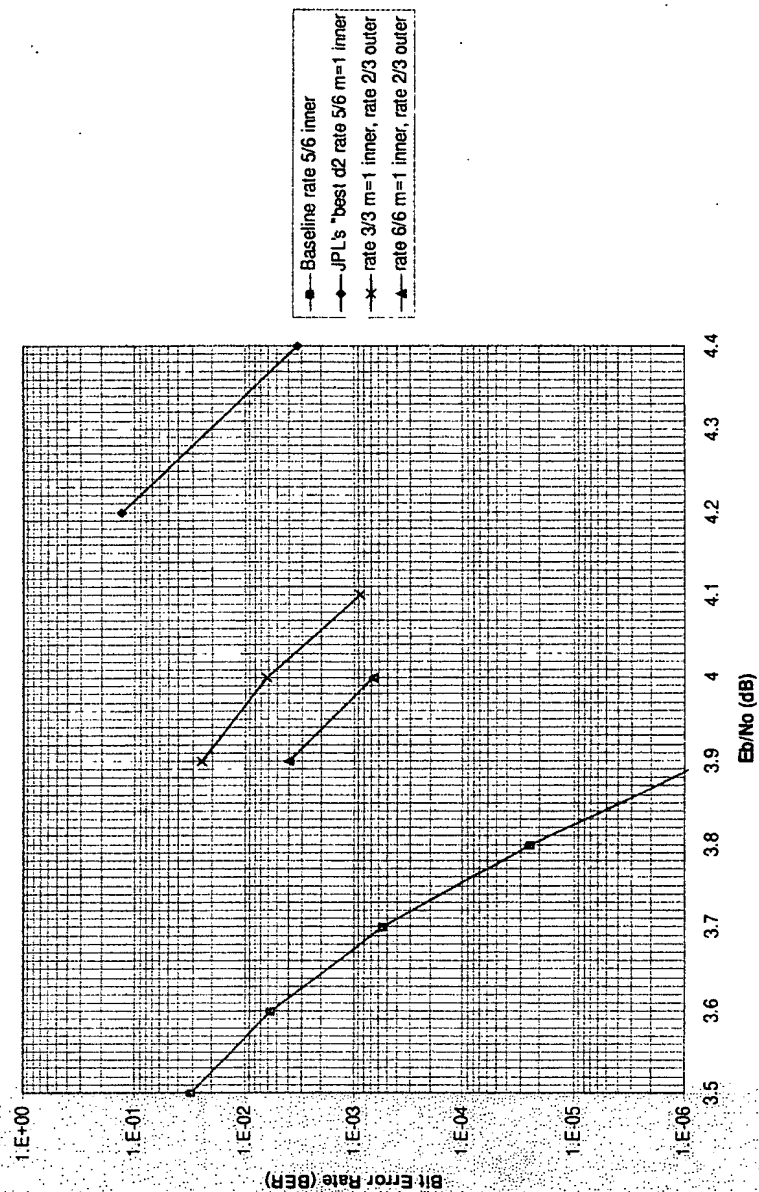


FIGURE 13A



Rate 5/6 Overall Waterfall Comparisons

Simulated (Waterfall) Performance
Rate 5/6 Overall (15147 source bits per block, 6 iterations)

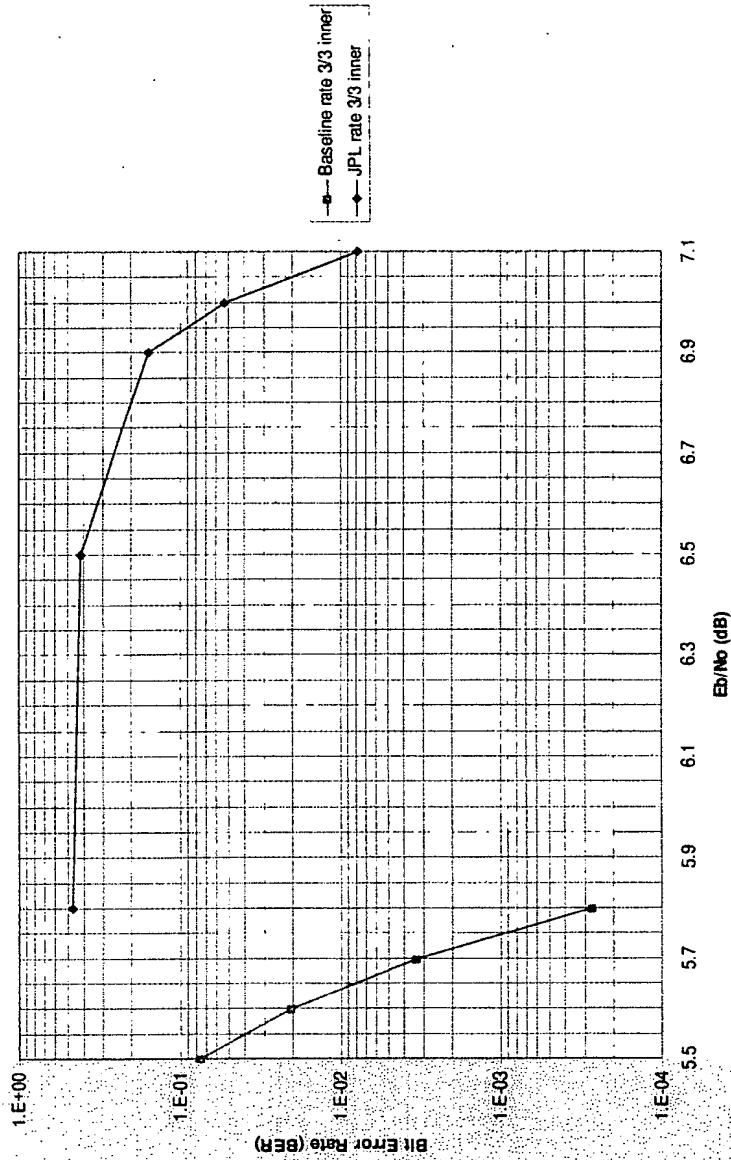
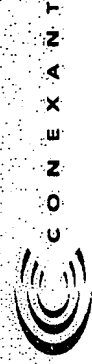


FIGURE 13B



Rate 3/3 vs Rate 6/6 Codes

Rate 5/6 overall 8-PSK SCTCM performance: rate 3/3 inner code vs rate 6/6 inner code

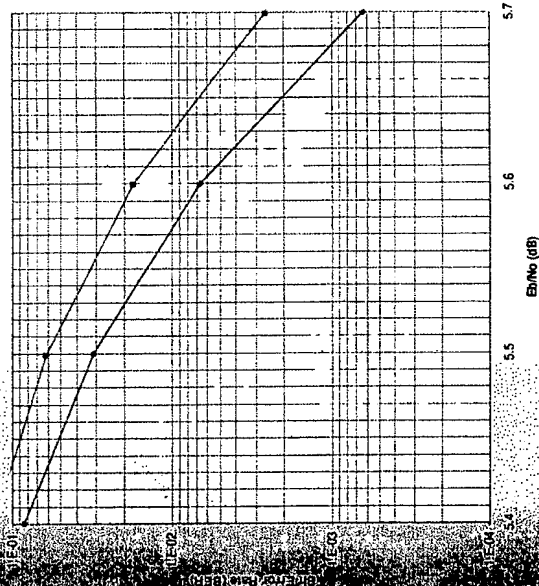


FIGURE 13C

Rate 8/9 overall 8-PSK SCTCM performance: rate 3/3 inner code vs rate 6/6 inner code

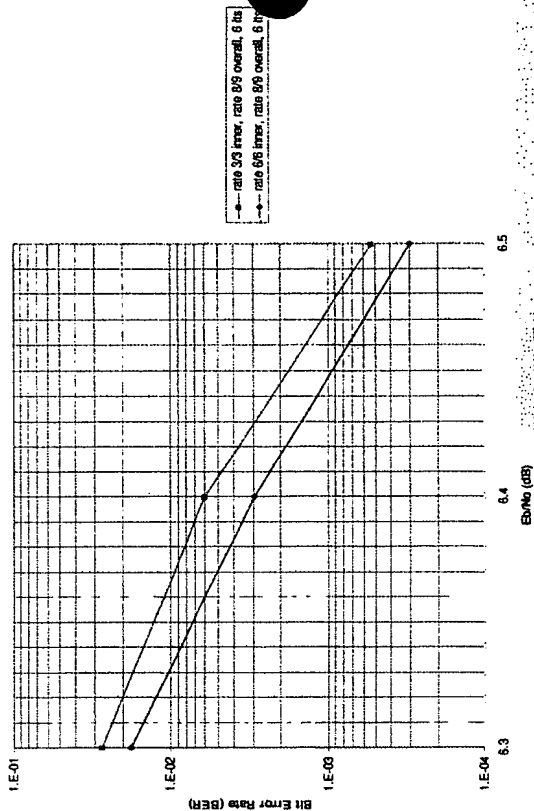


FIGURE 13D



006290" 06920960

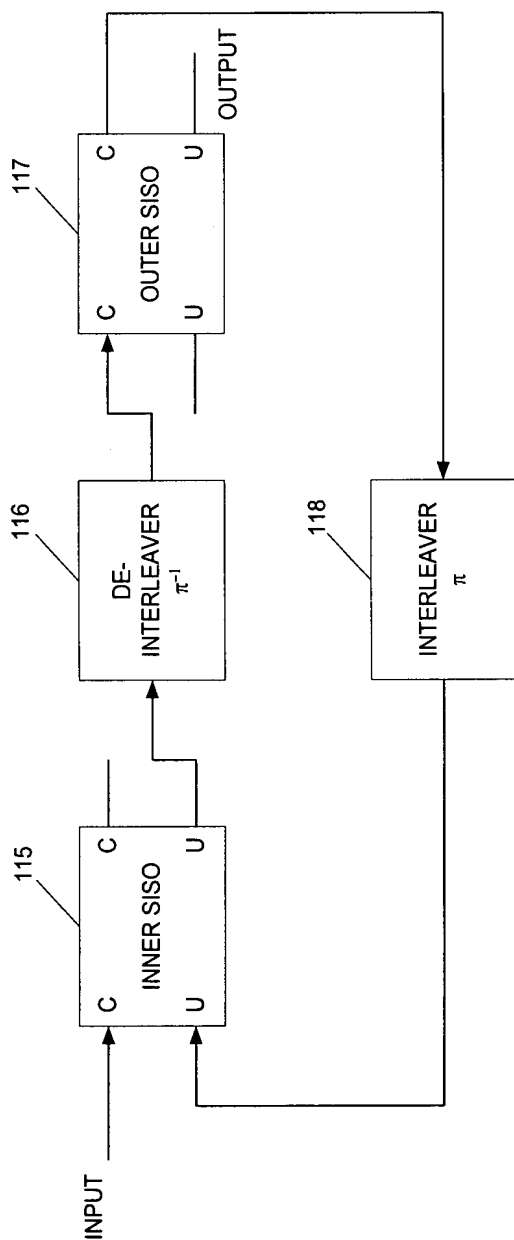


FIGURE 14

17



FIGURE 15

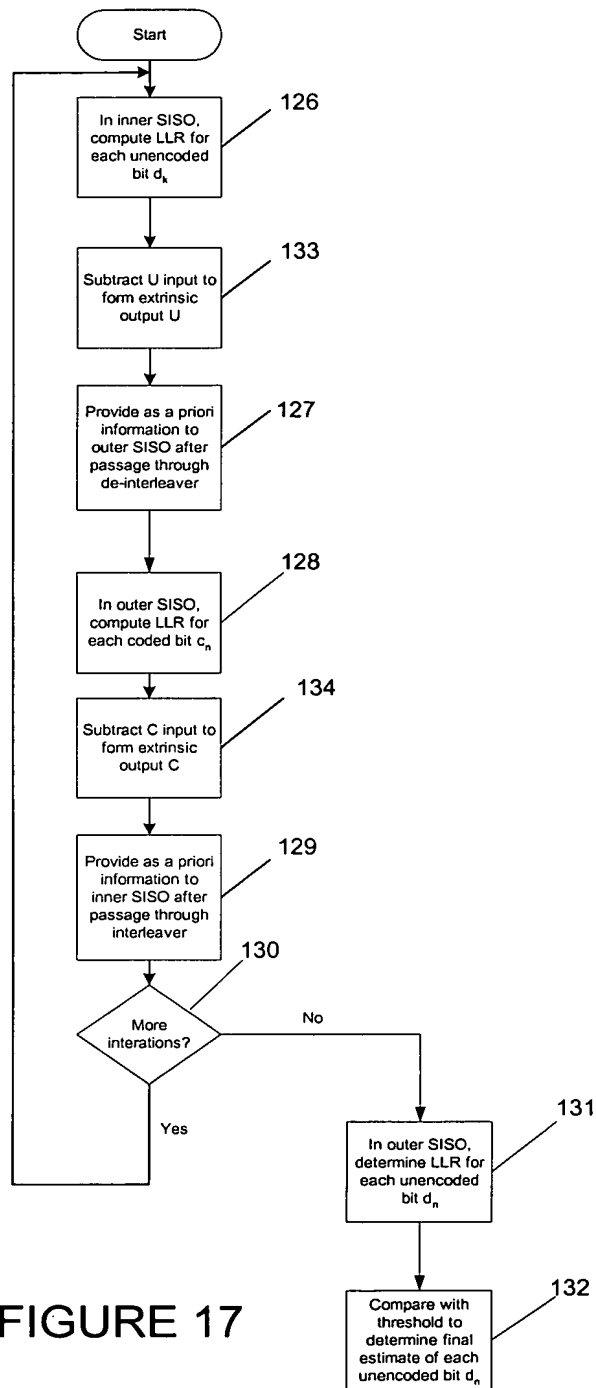


FIGURE 17